

Amendment E
U.S. appl. no. 10/579,954

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AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in this application.

LISTING OF CLAIMS

1-39 (*canceled*).

40 (*currently amended*). A method of making an amine-functionalized polymer, comprising:

- a) in a reaction medium ~~comprising an organic solvent~~, reacting a living polymer comprising unsaturated mer with a cyclic compound comprising at least one siloxane unit in its ring structure so as to provide an intermediate functionalized living polymer; and
- b) introducing into said reaction medium an amine comprising an active hydrogen atom attached to the amino nitrogen atom of said amine and allowing said amine to chemically bond to said intermediate functionalized living polymer, thereby providing said amine-functionalized polymer.

41 (*previously presented*). The method of claim 40 wherein said cyclic compound comprises at least three siloxane units in its ring structure.

42 (*previously presented*). The method of claim 41 wherein said ring structure of said cyclic compound consists of silicon and oxygen atoms.

43 (*previously presented*). The method of claim 41 wherein at least one of the silicon atoms of said cyclic compound comprises at least one C₁-C₆ substituent.

44 (*previously presented*). The method of claim 41 wherein each of the silicon atoms of said cyclic compound comprises at least one C₁-C₆ substituent.

45 (*previously presented*). The method of claim 44 wherein said cyclic compound is hexamethylcyclotrisiloxane or octamethylcyclotetrasiloxane.

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- 46 (*previously presented*). The method of claim 40 wherein said living polymer has an overall 1,2-microstructure of from about 25 to 65%.
- 47 (*previously presented*). The method of claim 40 wherein said reaction medium further comprises a polar coordinating compound.
- 48 (*previously presented*). The method of claim 40 wherein said living polymer further comprises about 1 to about 50 weight percent vinyl aromatic mer units.
- 49 (*previously presented*). The method of claim 48 wherein said vinyl aromatic mer units are randomly distributed in said living polymer.
- 50 (*previously presented*). The method of claim 49 further comprising removing said amine-functionalized polymer from said reaction medium and blending said amine-functionalized polymer with one or more types of filler particles so as to form a rubber compound.
- 51 (*previously presented*). The method of claim 50 wherein said rubber compound further comprises at least one other type of rubber.
- 52 (*previously presented*). The method of claim 51 wherein said rubber compound further comprises a vulcanizing agent.
- 53 (*previously presented*). The method of claim 52 further comprising vulcanizing said rubber compound.
- 54 (*previously presented*). The method of claim 40 wherein the radical of said cyclic compound constitutes no more than about 400 g/mol of said intermediate functionalized living polymer.
- 55 (*previously presented*). The method of claim 54 further comprising removing said amine-functionalized polymer from said reaction medium and blending said amine-

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functionalized polymer with one or more types of filler particles so as to form a rubber compound.

56 (*previously presented*). The method of claim 55 wherein said rubber compound further comprises at least one other type of rubber.

57 (*previously presented*). The method of claim 56 wherein said rubber compound further comprises a vulcanizing agent.

58 (*previously presented*). The method of claim 57 further comprising vulcanizing said rubber compound.

59 (*new*). The method of claim 40 wherein said reaction medium is an organic solvent selected from a C₅-C₁₂ cyclic alkane, a C₅-C₁₂ acyclic alkane, an alkylated derivative of a C₅-C₁₂ cyclic or acyclic alkane, a liquid aromatic compound, or a mixture of any of the foregoing, said living polymer optionally being dissolved in said reaction medium.